

To protect large electrical system from overload or to monitor large current loads by means of a metering instrument **Current Transformer** plays a very important role. It provides the necessary tools to capture the actual load current and reduces its values by means of transformation ratio to a minimum of safe value. Therefore, selection of accurate and reliable current transformers are very crucial.

SES range of metering, measuring and protective current transformers are designed and manufactured to cater for wide range of applications. They are tested to **IEC60044-1 2003-02** and are certified to **ASTA & CE Mark Certified to UL**.

### Application guide to accuracy class

Accuracy Class	Application
0.1	Precision Testing or as a standard for testing other CTs
0.2	Precision Metering
0.5	General Tariff Metering
1.0	Non Revenue measurement incl. power and energy
3.0	General industrial measurement
5.0	Approximate measurement

**Table - limit of current error and phase displacement for measuring current transformer (class 0.1 to 1)**

Accuracy Class	± Percentage current (ratio) error at percentage of rated current shown below					± Phase displacement at percentage of rated current shown below							
						Minutes				Centiradians			
	5	20	100	120	5	20	100	120	5	20	100	120	
0.1	0.4	0.2	0.1	0.1	15	8	5	5	0.45	0.24	0.15	0.15	
0.2	0.75	0.35	0.2	0.2	30	15	10	10	0.9	0.45	0.3	0.3	
0.5	1.5	0.75	0.5	0.5	90	45	30	30	2.7	1.35	0.9	0.9	
1.0	3.0	1.5	1.0	1.0	180	90	60	60	5.4	2.7	1.8	1.8	

**Table - limit of current error and phase displacement for special application**

Accuracy Class	± Percentage current (ratio) error at percentage of rated current shown below					± Phase displacement at percentage of rated current shown below									
						Minutes					Centiradians				
	1	5	20	100	120	1	5	20	100	120	1	5	20	100	120
0.2s	0.75	0.35	0.2	0.2	0.2	30	15	10	10	10	0.9	0.45	0.3	0.3	0.3
0.5s	1.5	0.75	0.5	0.5	0.5	90	45	30	30	30	2.7	1.35	0.9	0.9	0.9

**Table - limit of current error and phase displacement for measuring current transformer (class 3 to 5)**

Accuracy Class	± Percentage current (ratio) error at percentage of rated current shown below	
	50	120
3	3	3
5	5	5

Limits of phase displacement are not specified for class 3 and class 5.

**Table - limit of current error for protection current transformer**

Accuracy Class	Current error at Rated primary current %	Phase displacement at rated primary current		Composite error at rated accuracy limit primary current %
		Minutes	Centiradians	
5P	±1	±60	±1.8	5
10P	±3	–	–	10

## Specifications

Standard	IEC60044-1 2003-02
Rated operational voltage (Un)	720V
Rated frequency	50 / 60Hz
Ambient temperature	- 5~40°C
Operating humidity	up to 95% relative humidity
Rated short time thermal current (I <sub>th</sub> )	50kA
Rated dynamic current (I <sub>dyn</sub> )	125kA peak
Dielectric strength	3kV r.m.s for 1 minute
Thermal class of insulation	B
Tape	Non-adhesive PVC tape flame retardant
Casing	Non-flammable, polycarbonate self extinguishing ABS IPL
Accuracy class	Measuring 0.2, 0.5, 1, 3 Protection 5P, 10P, PX
Burden	1.5 to 15VA
Rated primary current	ranging up to 6000A
Rated secondary current	5A or 1A

## Burden Requirements

The Burden imposed on a Current Transformer consist mainly of the following:-

- a) The impedance of the relays or instruments.
- b) The impedance of pilot wire between current transformer and relay or instruments.
- c) The sum of (a) & (b) constitute the external burden required.

## Enquiry / Ordering Information

1. When enquiring or ordering, please specify the following:

- a) Ratio : 30 / 5A to 6000 / 5A  
20 / 1A to 6000 / 1A
- b) Class : 0.2, 0.5, 1, 3, 5.
- c) Burden (VA) : 2.5, 5, 10, 15, 20.
- d) ALF for Protective C/T : P5, P10, P15, P20.

2. For non-standard sizes, please provide additional informations such as:-

- a) Internal Diameter required in mm (D)
- b) Outer Diameter required in mm (OD)
- c) Height required in mm (HT)
- d) Rated secondary current if other than 5A

## Safety Precautions!

**The secondary terminals when not in used must be shorted before the primary supply is energised. Otherwise high voltage will develop across the secondary terminals causing damage to the current transformer and danger to life.**